

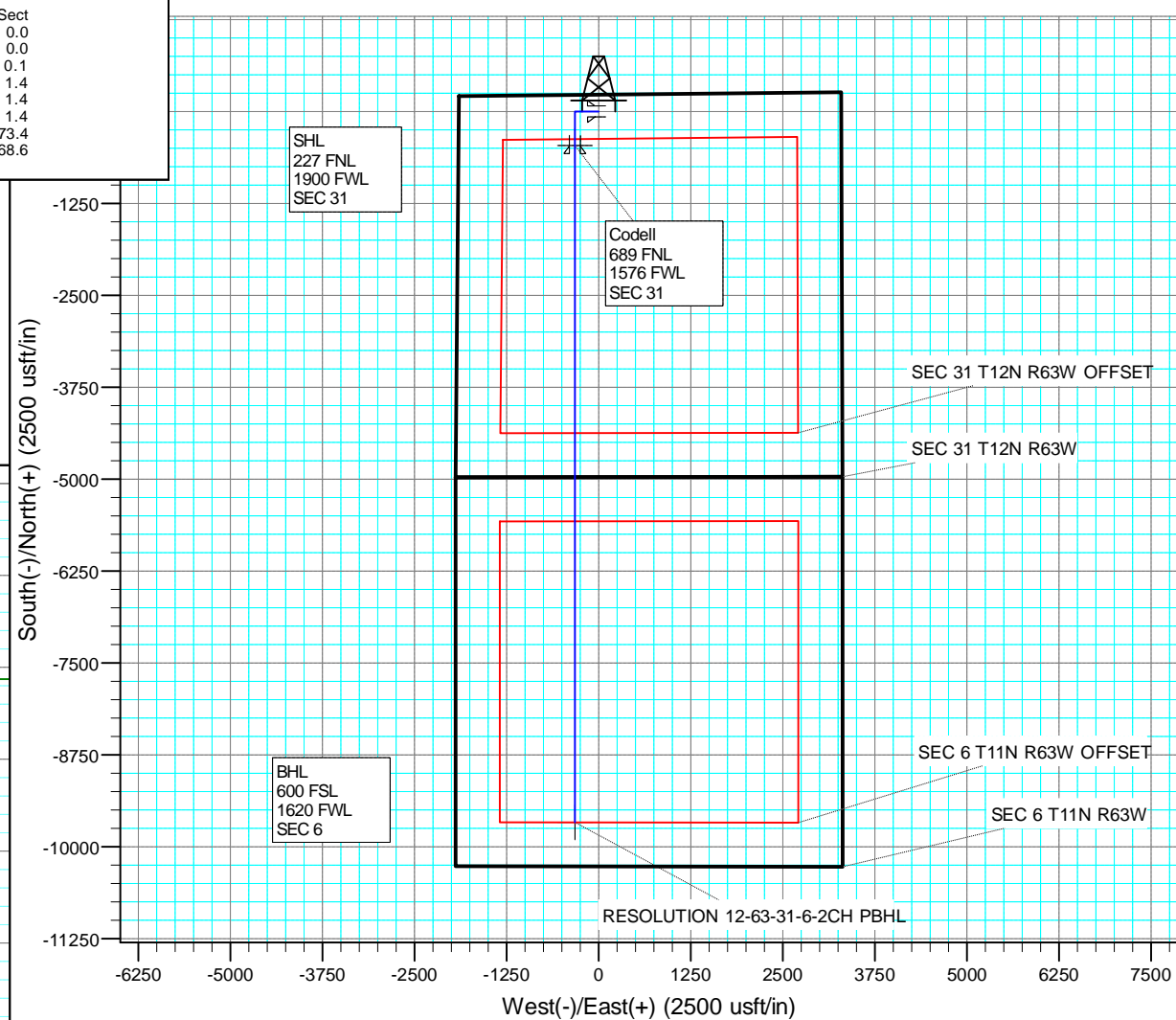
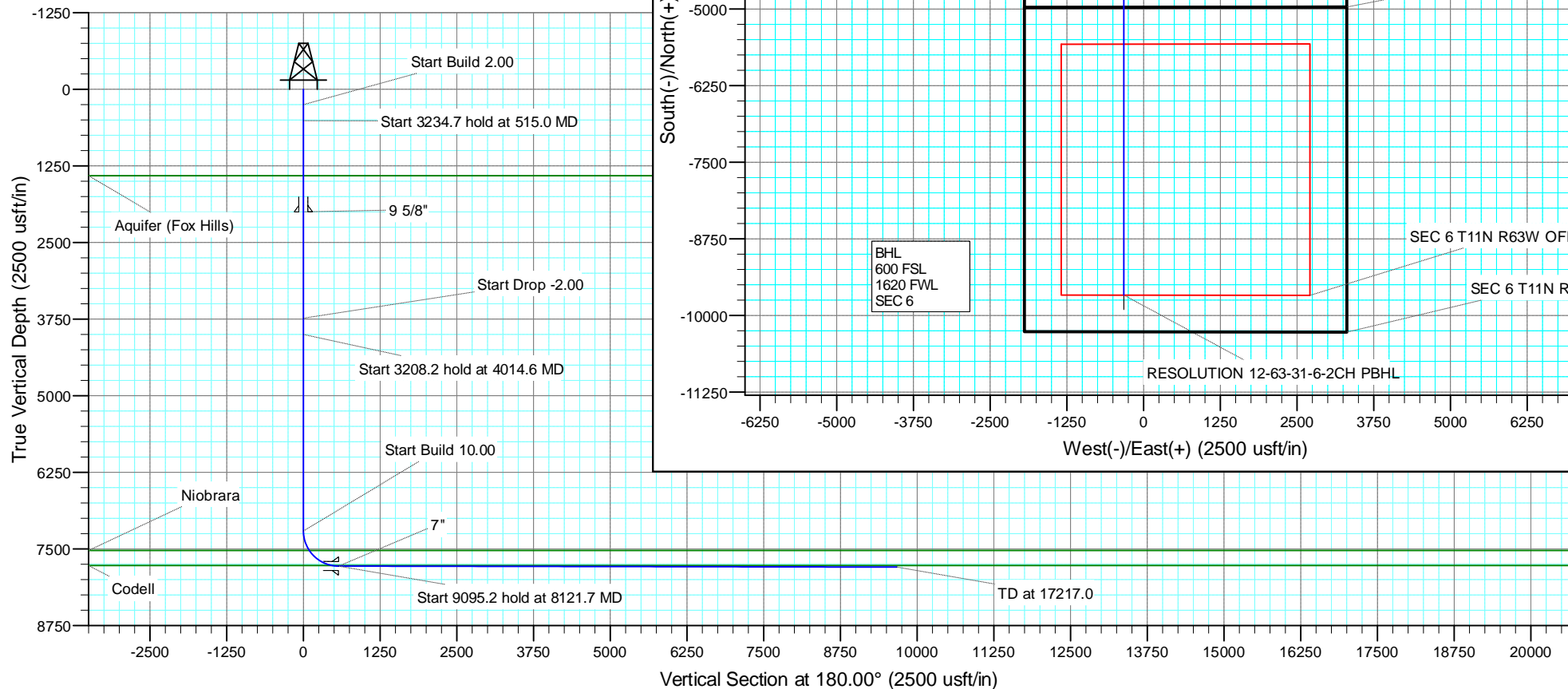
+N/-S +E/-W Northing Easting Latitude Longitude
 0.0 0.0 1598680.29 3282139.19 40.972275 -104.478323

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.0
515.0	5.30	269.74	514.6	-0.1	-12.2	2.00	269.74	0.1
3749.6	5.30	269.74	3735.4	-1.4	-311.0	0.00	0.00	1.4
4014.6	0.00	0.00	4000.0	-1.4	-323.2	2.00	180.00	1.4
7222.7	0.00	0.00	7208.2	-1.4	-323.2	0.00	0.00	1.4
8121.7	89.90	180.00	7781.1	-573.4	-323.2	10.00	180.00	573.4
17217.0	89.90	180.00	7797.0	-9668.6	-323.2	0.00	0.00	9668.6

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1412.0	1416.2	Aquifer (Fox Hills)
7527.0	7560.9	Niobrara
7770.0	8009.6	Codell



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

RESOLUTION FED 12-63-30-19-2CH PAD

RESOLUTION 12-63-31-6-2CH

Wellbore #1

Plan: PLAN #1

Standard Planning Report

25 February, 2015

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 12-63-31-6-2CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5452.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5452.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-63-30-19-2CH PAD	North Reference:	True
Well:	RESOLUTION 12-63-31-6-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	RESOLUTION FED 12-63-30-19-2CH PAD			
Site Position:		Northing:	1,598,678.49 usft	Latitude: 40.972271
From:	Lat/Long	Easting:	3,282,109.39 usft	Longitude: -104.478431
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence: 0.66 °

Well	RESOLUTION 12-63-31-6-2CH			
Well Position	+N/-S	1.4 usft	Northing:	1,598,680.28 usft
	+E/-W	29.8 usft	Easting:	3,282,139.19 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level: 5,426.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.92	67.62	53,627

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	180.00

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00	
515.0	5.30	269.74	514.6	-0.1	-12.2	2.00	2.00	0.00	269.74	
3,749.6	5.30	269.74	3,735.4	-1.4	-311.0	0.00	0.00	0.00	0.00	
4,014.6	0.00	0.00	4,000.0	-1.4	-323.2	2.00	-2.00	0.00	180.00	
7,222.7	0.00	0.00	7,208.2	-1.4	-323.2	0.00	0.00	0.00	0.00	
8,121.7	89.90	180.00	7,781.1	-573.4	-323.2	10.00	10.00	0.00	180.00	
17,217.0	89.90	180.00	7,797.0	-9,668.6	-323.2	0.00	0.00	0.00	0.00	RESOLUTION 12-63-

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 12-63-31-6-2CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5452.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5452.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-63-30-19-2CH PAD	North Reference:	True
Well:	RESOLUTION 12-63-31-6-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
300.0	1.00	269.74	300.0	0.0	-0.4	0.0	2.00	2.00	0.00
400.0	3.00	269.74	399.9	0.0	-3.9	0.0	2.00	2.00	0.00
500.0	5.00	269.74	499.7	0.0	-10.9	0.0	2.00	2.00	0.00
515.0	5.30	269.74	514.6	-0.1	-12.2	0.1	2.00	2.00	0.00
Start 3234.7 hold at 515.0 MD									
600.0	5.30	269.74	599.3	-0.1	-20.1	0.1	0.00	0.00	0.00
700.0	5.30	269.74	698.8	-0.1	-29.3	0.1	0.00	0.00	0.00
800.0	5.30	269.74	798.4	-0.2	-38.6	0.2	0.00	0.00	0.00
900.0	5.30	269.74	898.0	-0.2	-47.8	0.2	0.00	0.00	0.00
1,000.0	5.30	269.74	997.5	-0.3	-57.0	0.3	0.00	0.00	0.00
1,100.0	5.30	269.74	1,097.1	-0.3	-66.3	0.3	0.00	0.00	0.00
1,200.0	5.30	269.74	1,196.7	-0.3	-75.5	0.3	0.00	0.00	0.00
1,300.0	5.30	269.74	1,296.3	-0.4	-84.7	0.4	0.00	0.00	0.00
1,400.0	5.30	269.74	1,395.8	-0.4	-94.0	0.4	0.00	0.00	0.00
1,416.2	5.30	269.74	1,412.0	-0.4	-95.5	0.4	0.00	0.00	0.00
Aquifer (Fox Hills)									
1,500.0	5.30	269.74	1,495.4	-0.5	-103.2	0.5	0.00	0.00	0.00
1,600.0	5.30	269.74	1,595.0	-0.5	-112.5	0.5	0.00	0.00	0.00
1,700.0	5.30	269.74	1,694.6	-0.5	-121.7	0.5	0.00	0.00	0.00
1,800.0	5.30	269.74	1,794.1	-0.6	-130.9	0.6	0.00	0.00	0.00
1,900.0	5.30	269.74	1,893.7	-0.6	-140.2	0.6	0.00	0.00	0.00
2,000.0	5.30	269.74	1,993.3	-0.7	-149.4	0.7	0.00	0.00	0.00
2,006.8	5.30	269.74	2,000.0	-0.7	-150.0	0.7	0.00	0.00	0.00
9 5/8"									
2,100.0	5.30	269.74	2,092.8	-0.7	-158.6	0.7	0.00	0.00	0.00
2,200.0	5.30	269.74	2,192.4	-0.8	-167.9	0.8	0.00	0.00	0.00
2,300.0	5.30	269.74	2,292.0	-0.8	-177.1	0.8	0.00	0.00	0.00
2,400.0	5.30	269.74	2,391.6	-0.8	-186.3	0.8	0.00	0.00	0.00
2,500.0	5.30	269.74	2,491.1	-0.9	-195.6	0.9	0.00	0.00	0.00
2,600.0	5.30	269.74	2,590.7	-0.9	-204.8	0.9	0.00	0.00	0.00
2,700.0	5.30	269.74	2,690.3	-1.0	-214.0	1.0	0.00	0.00	0.00
2,800.0	5.30	269.74	2,789.9	-1.0	-223.3	1.0	0.00	0.00	0.00
2,900.0	5.30	269.74	2,889.4	-1.0	-232.5	1.0	0.00	0.00	0.00
3,000.0	5.30	269.74	2,989.0	-1.1	-241.7	1.1	0.00	0.00	0.00
3,100.0	5.30	269.74	3,088.6	-1.1	-251.0	1.1	0.00	0.00	0.00
3,200.0	5.30	269.74	3,188.1	-1.2	-260.2	1.2	0.00	0.00	0.00
3,300.0	5.30	269.74	3,287.7	-1.2	-269.5	1.2	0.00	0.00	0.00
3,400.0	5.30	269.74	3,387.3	-1.2	-278.7	1.2	0.00	0.00	0.00
3,500.0	5.30	269.74	3,486.9	-1.3	-287.9	1.3	0.00	0.00	0.00
3,600.0	5.30	269.74	3,586.4	-1.3	-297.2	1.3	0.00	0.00	0.00
3,700.0	5.30	269.74	3,686.0	-1.4	-306.4	1.4	0.00	0.00	0.00
3,749.6	5.30	269.74	3,735.4	-1.4	-311.0	1.4	0.00	0.00	0.00
Start Drop -2.00									
3,800.0	4.29	269.74	3,785.6	-1.4	-315.2	1.4	2.00	-2.00	0.00
3,900.0	2.29	269.74	3,885.5	-1.4	-320.9	1.4	2.00	-2.00	0.00
4,000.0	0.29	269.74	3,985.4	-1.4	-323.2	1.4	2.00	-2.00	0.00
4,014.6	0.00	0.00	4,000.0	-1.4	-323.2	1.4	2.00	-2.00	0.00
Start 3208.2 hold at 4014.6 MD									

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 12-63-31-6-2CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5452.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5452.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-63-30-19-2CH PAD	North Reference:	True
Well:	RESOLUTION 12-63-31-6-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,100.0	0.00	0.00	4,085.4	-1.4	-323.2	1.4	0.00	0.00	0.00
4,200.0	0.00	0.00	4,185.4	-1.4	-323.2	1.4	0.00	0.00	0.00
4,300.0	0.00	0.00	4,285.4	-1.4	-323.2	1.4	0.00	0.00	0.00
4,400.0	0.00	0.00	4,385.4	-1.4	-323.2	1.4	0.00	0.00	0.00
4,500.0	0.00	0.00	4,485.4	-1.4	-323.2	1.4	0.00	0.00	0.00
4,600.0	0.00	0.00	4,585.4	-1.4	-323.2	1.4	0.00	0.00	0.00
4,700.0	0.00	0.00	4,685.4	-1.4	-323.2	1.4	0.00	0.00	0.00
4,800.0	0.00	0.00	4,785.4	-1.4	-323.2	1.4	0.00	0.00	0.00
4,900.0	0.00	0.00	4,885.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,000.0	0.00	0.00	4,985.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,100.0	0.00	0.00	5,085.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,200.0	0.00	0.00	5,185.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,300.0	0.00	0.00	5,285.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,400.0	0.00	0.00	5,385.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,500.0	0.00	0.00	5,485.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,600.0	0.00	0.00	5,585.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,700.0	0.00	0.00	5,685.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,785.4	-1.4	-323.2	1.4	0.00	0.00	0.00
5,900.0	0.00	0.00	5,885.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,985.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,100.0	0.00	0.00	6,085.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,200.0	0.00	0.00	6,185.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,300.0	0.00	0.00	6,285.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,385.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,500.0	0.00	0.00	6,485.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,585.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,700.0	0.00	0.00	6,685.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,785.4	-1.4	-323.2	1.4	0.00	0.00	0.00
6,900.0	0.00	0.00	6,885.4	-1.4	-323.2	1.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,985.4	-1.4	-323.2	1.4	0.00	0.00	0.00
7,100.0	0.00	0.00	7,085.4	-1.4	-323.2	1.4	0.00	0.00	0.00
7,200.0	0.00	0.00	7,185.4	-1.4	-323.2	1.4	0.00	0.00	0.00
7,222.7	0.00	0.00	7,208.2	-1.4	-323.2	1.4	0.00	0.00	0.00
Start Build 10.00									
7,300.0	7.73	180.00	7,285.2	-6.6	-323.2	6.6	10.00	10.00	0.00
7,400.0	17.73	180.00	7,382.6	-28.6	-323.2	28.6	10.00	10.00	0.00
7,500.0	27.73	180.00	7,474.7	-67.2	-323.2	67.2	10.00	10.00	0.00
7,560.9	33.81	180.00	7,527.0	-98.4	-323.2	98.4	10.00	10.00	0.00
Niobrara									
7,600.0	37.73	180.00	7,558.7	-121.2	-323.2	121.2	10.00	10.00	0.00
7,700.0	47.73	180.00	7,632.1	-189.0	-323.2	189.0	10.00	10.00	0.00
7,800.0	57.73	180.00	7,692.6	-268.5	-323.2	268.5	10.00	10.00	0.00
7,900.0	67.73	180.00	7,738.4	-357.2	-323.2	357.2	10.00	10.00	0.00
8,000.0	77.73	180.00	7,768.0	-452.6	-323.2	452.6	10.00	10.00	0.00
8,009.6	78.69	180.00	7,770.0	-462.0	-323.2	462.0	10.00	10.00	0.00
Codell									
8,100.0	87.73	180.00	7,780.7	-551.7	-323.2	551.7	10.00	10.00	0.00
8,121.7	89.90	180.00	7,781.1	-573.4	-323.2	573.4	10.00	10.00	0.00
Start 9095.2 hold at 8121.7 MD - 7"									
8,200.0	89.90	180.00	7,781.3	-651.7	-323.2	651.7	0.01	0.01	0.00
8,300.0	89.90	180.00	7,781.4	-751.7	-323.2	751.7	0.00	0.00	0.00
8,400.0	89.90	180.00	7,781.6	-851.7	-323.2	851.7	0.00	0.00	0.00
8,500.0	89.90	180.00	7,781.8	-951.7	-323.2	951.7	0.00	0.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 12-63-31-6-2CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5452.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5452.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-63-30-19-2CH PAD	North Reference:	True
Well:	RESOLUTION 12-63-31-6-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,600.0	89.90	180.00	7,782.0	-1,051.7	-323.2	1,051.7	0.00	0.00	0.00
8,700.0	89.90	180.00	7,782.1	-1,151.7	-323.2	1,151.7	0.00	0.00	0.00
8,800.0	89.90	180.00	7,782.3	-1,251.7	-323.2	1,251.7	0.00	0.00	0.00
8,900.0	89.90	180.00	7,782.5	-1,351.7	-323.2	1,351.7	0.00	0.00	0.00
9,000.0	89.90	180.00	7,782.7	-1,451.7	-323.2	1,451.7	0.00	0.00	0.00
9,100.0	89.90	180.00	7,782.8	-1,551.7	-323.2	1,551.7	0.00	0.00	0.00
9,200.0	89.90	180.00	7,783.0	-1,651.7	-323.2	1,651.7	0.00	0.00	0.00
9,300.0	89.90	180.00	7,783.2	-1,751.7	-323.2	1,751.7	0.00	0.00	0.00
9,400.0	89.90	180.00	7,783.4	-1,851.7	-323.2	1,851.7	0.00	0.00	0.00
9,500.0	89.90	180.00	7,783.5	-1,951.7	-323.2	1,951.7	0.00	0.00	0.00
9,600.0	89.90	180.00	7,783.7	-2,051.7	-323.2	2,051.7	0.00	0.00	0.00
9,700.0	89.90	180.00	7,783.9	-2,151.7	-323.2	2,151.7	0.00	0.00	0.00
9,800.0	89.90	180.00	7,784.1	-2,251.7	-323.2	2,251.7	0.00	0.00	0.00
9,900.0	89.90	180.00	7,784.2	-2,351.7	-323.2	2,351.7	0.00	0.00	0.00
10,000.0	89.90	180.00	7,784.4	-2,451.7	-323.2	2,451.7	0.00	0.00	0.00
10,100.0	89.90	180.00	7,784.6	-2,551.7	-323.2	2,551.7	0.00	0.00	0.00
10,200.0	89.90	180.00	7,784.8	-2,651.7	-323.2	2,651.7	0.00	0.00	0.00
10,300.0	89.90	180.00	7,784.9	-2,751.7	-323.2	2,751.7	0.00	0.00	0.00
10,400.0	89.90	180.00	7,785.1	-2,851.7	-323.2	2,851.7	0.00	0.00	0.00
10,500.0	89.90	180.00	7,785.3	-2,951.7	-323.2	2,951.7	0.00	0.00	0.00
10,600.0	89.90	180.00	7,785.5	-3,051.7	-323.2	3,051.7	0.00	0.00	0.00
10,700.0	89.90	180.00	7,785.6	-3,151.7	-323.2	3,151.7	0.00	0.00	0.00
10,800.0	89.90	180.00	7,785.8	-3,251.7	-323.2	3,251.7	0.00	0.00	0.00
10,900.0	89.90	180.00	7,786.0	-3,351.7	-323.2	3,351.7	0.00	0.00	0.00
11,000.0	89.90	180.00	7,786.1	-3,451.7	-323.2	3,451.7	0.00	0.00	0.00
11,100.0	89.90	180.00	7,786.3	-3,551.7	-323.2	3,551.7	0.00	0.00	0.00
11,200.0	89.90	180.00	7,786.5	-3,651.7	-323.2	3,651.7	0.00	0.00	0.00
11,300.0	89.90	180.00	7,786.7	-3,751.7	-323.2	3,751.7	0.00	0.00	0.00
11,400.0	89.90	180.00	7,786.8	-3,851.7	-323.2	3,851.7	0.00	0.00	0.00
11,500.0	89.90	180.00	7,787.0	-3,951.7	-323.2	3,951.7	0.00	0.00	0.00
11,600.0	89.90	180.00	7,787.2	-4,051.7	-323.2	4,051.7	0.00	0.00	0.00
11,700.0	89.90	180.00	7,787.4	-4,151.7	-323.2	4,151.7	0.00	0.00	0.00
11,800.0	89.90	180.00	7,787.5	-4,251.7	-323.2	4,251.7	0.00	0.00	0.00
11,900.0	89.90	180.00	7,787.7	-4,351.7	-323.2	4,351.7	0.00	0.00	0.00
12,000.0	89.90	180.00	7,787.9	-4,451.7	-323.2	4,451.7	0.00	0.00	0.00
12,100.0	89.90	180.00	7,788.1	-4,551.7	-323.2	4,551.7	0.00	0.00	0.00
12,200.0	89.90	180.00	7,788.2	-4,651.7	-323.2	4,651.7	0.00	0.00	0.00
12,300.0	89.90	180.00	7,788.4	-4,751.7	-323.2	4,751.7	0.00	0.00	0.00
12,400.0	89.90	180.00	7,788.6	-4,851.7	-323.2	4,851.7	0.00	0.00	0.00
12,500.0	89.90	180.00	7,788.8	-4,951.7	-323.2	4,951.7	0.00	0.00	0.00
12,600.0	89.90	180.00	7,788.9	-5,051.7	-323.2	5,051.7	0.00	0.00	0.00
12,700.0	89.90	180.00	7,789.1	-5,151.7	-323.2	5,151.7	0.00	0.00	0.00
12,800.0	89.90	180.00	7,789.3	-5,251.7	-323.2	5,251.7	0.00	0.00	0.00
12,900.0	89.90	180.00	7,789.5	-5,351.7	-323.2	5,351.7	0.00	0.00	0.00
13,000.0	89.90	180.00	7,789.6	-5,451.7	-323.2	5,451.7	0.00	0.00	0.00
13,100.0	89.90	180.00	7,789.8	-5,551.7	-323.2	5,551.7	0.00	0.00	0.00
13,200.0	89.90	180.00	7,790.0	-5,651.7	-323.2	5,651.7	0.00	0.00	0.00
13,300.0	89.90	180.00	7,790.2	-5,751.7	-323.2	5,751.7	0.00	0.00	0.00
13,400.0	89.90	180.00	7,790.3	-5,851.7	-323.2	5,851.7	0.00	0.00	0.00
13,500.0	89.90	180.00	7,790.5	-5,951.7	-323.2	5,951.7	0.00	0.00	0.00
13,600.0	89.90	180.00	7,790.7	-6,051.7	-323.2	6,051.7	0.00	0.00	0.00
13,700.0	89.90	180.00	7,790.9	-6,151.7	-323.2	6,151.7	0.00	0.00	0.00
13,800.0	89.90	180.00	7,791.0	-6,251.7	-323.2	6,251.7	0.00	0.00	0.00
13,900.0	89.90	180.00	7,791.2	-6,351.7	-323.2	6,351.7	0.00	0.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 12-63-31-6-2CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5452.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5452.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-63-30-19-2CH PAD	North Reference:	True
Well:	RESOLUTION 12-63-31-6-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,000.0	89.90	180.00	7,791.4	-6,451.6	-323.2	6,451.6	0.00	0.00	0.00	
14,100.0	89.90	180.00	7,791.6	-6,551.6	-323.2	6,551.6	0.00	0.00	0.00	
14,200.0	89.90	180.00	7,791.7	-6,651.6	-323.2	6,651.6	0.00	0.00	0.00	
14,300.0	89.90	180.00	7,791.9	-6,751.6	-323.2	6,751.6	0.00	0.00	0.00	
14,400.0	89.90	180.00	7,792.1	-6,851.6	-323.2	6,851.6	0.00	0.00	0.00	
14,500.0	89.90	180.00	7,792.3	-6,951.6	-323.2	6,951.6	0.00	0.00	0.00	
14,600.0	89.90	180.00	7,792.4	-7,051.6	-323.2	7,051.6	0.00	0.00	0.00	
14,700.0	89.90	180.00	7,792.6	-7,151.6	-323.2	7,151.6	0.00	0.00	0.00	
14,800.0	89.90	180.00	7,792.8	-7,251.6	-323.2	7,251.6	0.00	0.00	0.00	
14,900.0	89.90	180.00	7,793.0	-7,351.6	-323.2	7,351.6	0.00	0.00	0.00	
15,000.0	89.90	180.00	7,793.1	-7,451.6	-323.2	7,451.6	0.00	0.00	0.00	
15,100.0	89.90	180.00	7,793.3	-7,551.6	-323.2	7,551.6	0.00	0.00	0.00	
15,200.0	89.90	180.00	7,793.5	-7,651.6	-323.2	7,651.6	0.00	0.00	0.00	
15,300.0	89.90	180.00	7,793.7	-7,751.6	-323.2	7,751.6	0.00	0.00	0.00	
15,400.0	89.90	180.00	7,793.8	-7,851.6	-323.2	7,851.6	0.00	0.00	0.00	
15,500.0	89.90	180.00	7,794.0	-7,951.6	-323.2	7,951.6	0.00	0.00	0.00	
15,600.0	89.90	180.00	7,794.2	-8,051.6	-323.2	8,051.6	0.00	0.00	0.00	
15,700.0	89.90	180.00	7,794.4	-8,151.6	-323.2	8,151.6	0.00	0.00	0.00	
15,800.0	89.90	180.00	7,794.5	-8,251.6	-323.2	8,251.6	0.00	0.00	0.00	
15,900.0	89.90	180.00	7,794.7	-8,351.6	-323.2	8,351.6	0.00	0.00	0.00	
16,000.0	89.90	180.00	7,794.9	-8,451.6	-323.2	8,451.6	0.00	0.00	0.00	
16,100.0	89.90	180.00	7,795.1	-8,551.6	-323.2	8,551.6	0.00	0.00	0.00	
16,200.0	89.90	180.00	7,795.2	-8,651.6	-323.2	8,651.6	0.00	0.00	0.00	
16,300.0	89.90	180.00	7,795.4	-8,751.6	-323.2	8,751.6	0.00	0.00	0.00	
16,400.0	89.90	180.00	7,795.6	-8,851.6	-323.2	8,851.6	0.00	0.00	0.00	
16,500.0	89.90	180.00	7,795.7	-8,951.6	-323.2	8,951.6	0.00	0.00	0.00	
16,600.0	89.90	180.00	7,795.9	-9,051.6	-323.2	9,051.6	0.00	0.00	0.00	
16,700.0	89.90	180.00	7,796.1	-9,151.6	-323.2	9,151.6	0.00	0.00	0.00	
16,800.0	89.90	180.00	7,796.3	-9,251.6	-323.2	9,251.6	0.00	0.00	0.00	
16,900.0	89.90	180.00	7,796.4	-9,351.6	-323.2	9,351.6	0.00	0.00	0.00	
17,000.0	89.90	180.00	7,796.6	-9,451.6	-323.2	9,451.6	0.00	0.00	0.00	
17,100.0	89.90	180.00	7,796.8	-9,551.6	-323.2	9,551.6	0.00	0.00	0.00	
17,200.0	89.90	180.00	7,797.0	-9,651.6	-323.2	9,651.6	0.00	0.00	0.00	
17,217.0	89.90	180.00	7,797.0	-9,668.6	-323.2	9,668.6	0.00	0.00	0.00	
TD at 17217.0										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude	
- hit/miss target									
- Shape									
Interp @ 7770.0 (RESOI	0.00	0.00	7,770.0	-462.0	-323.2	1,598,214.55	3,281,821.32	40.971007	-104.479494
- plan hits target center									
- Point									
RESOLUTION 12-63-31	0.00	0.00	7,797.0	-9,668.6	-323.2	1,589,008.58	3,281,927.38	40.945739	-104.479493
- plan hits target center									
- Point									

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 12-63-31-6-2CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5452.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5452.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-63-30-19-2CH PAD	North Reference:	True
Well:	RESOLUTION 12-63-31-6-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,006.8	2,000.0	9 5/8"	9.625	12.250	
8,121.7	7,781.1	7"	7.000	7.500	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,416.2	1,412.0	Aquifer (Fox Hills)			
7,560.9	7,527.0	Niobrara			
8,009.6	7,770.0	Codell			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.0	250.0	0.0	0.0	Start Build 2.00	
515.0	514.6	-0.1	-12.2	Start 3234.7 hold at 515.0 MD	
3,749.6	3,735.4	-1.4	-311.0	Start Drop -2.00	
4,014.6	4,000.0	-1.4	-323.2	Start 3208.2 hold at 4014.6 MD	
7,222.7	7,208.2	-1.4	-323.2	Start Build 10.00	
8,121.7	7,781.1	-573.4	-323.2	Start 9095.2 hold at 8121.7 MD	
17,217.0	7,797.0	-9,668.6	-323.2	TD at 17217.0	